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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,538	10/23/2001	Sophie H. Essen	004906.P062	4685

8791 7590 03/08/2006

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EXAMINER	
ABELSON, RONALD B	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,538	ESSEN, SOPHIE H.	
	Examiner	Art Unit	
	Ronald Abelson	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5-9,16-27 and 38-40* is/are allowed.

6)☐ Claim(s) *1-4,10-15 and 28-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 10, 13, 14, 28-30, 32, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamble (US 5,592,629) in view of applicant's admitted prior art 'AAPA', and further in view of Wills (US 6,052,376).

Regarding claims 1, 10, 28, and 32, Gamble teaches storing data of a first data transfer rate defined by a first transmission standard in a synchronous storage device of a network element, the synchronous storage device having a first storage area (fig. 4 box 102C see data transfer from box 111 to 102C, fig. 4 box 111, circuit for matching data rates between two devices that are asynchronous, col. 2 lines 29-32: note the first data transfer rate is the rate of the DMA fig. 4 box 111).

Gamble teaches storing the data in the asynchronous storage device having a second storage area (fig. 4 box 102A).

Gamble teaches outputting the data from the asynchronous storage device at a second data transfer rate defined by a second transmission standard (circuit for matching data rates between two devices that are asynchronous, col. 2 lines 29-32: note the second data transfer rate is the rate of the SCSI Controller fig. 4 box 103).

Regarding claims 10 and 32 in addition to the limitations previously listed Gamble teaches receiving data at a first data transfer rate at the first network element of the communication system (fig. 4 box 102C see data transfer from box 111 to 102C, fig. 4 box 111, circuit for matching data rates between two devices that are asynchronous, col. 2 lines 29-32: note the first data transfer rate is the rate of the DMA fig. 4 box 111); and removing the data from the synchronous storage device (fig. 4 box 102C, 102A: see transfer of data from box 102C to 102A).

Although Gamble teaches the matching the data rates between two interfaces (fig. 4 box 111, 103), the reference does not explicitly state the first data transfer rate is the data rate of the data transmitted from the synchronous storage device to the asynchronous storage device.

AAPA teaches an asynchronous FIFO allows for the storage and extraction of data while converting the data from a first

clock domain to a second clock domain and a synchronous FIFO is used for storing and transmitting data within the same clock domain ([0002]).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Gamble by replacing the asynchronous FIFO (fig. 4 box 102A) with the asynchronous FIFO of AAPA and replacing the synchronous FIFO (fig. 4 box 102C) with the synchronous FIFO of AAPA. This modification would benefit the system by allowing a single asynchronous FIFO to perform the data rate conversion.

Although the combination discusses the desire to have a small asynchronous FIFO (AAPA: if an asynchronous FIFO is of size 2^{12} bits, the pointers and logic tables can be 12 bits each. This amounts to a large amount of space required for the control circuitry. Also, the amount of time required to implement a large asynchronous FIFO is increased due to the large double-sync logic and gray code tables, [0003]), the combination is silent on the implementation of a small asynchronous FIFO. Note, the examiner maintains that a "small asynchronous FIFO" would have a storage area smaller than the synchronous FIFO since "small" is a relative term and the only two storage units in the

system of the combination of Gamble and AAPA are the asynchronous FIFO and synchronous FIFO.

Wills teaches a method that can be used for implementing a transmitting buffer and a smaller receiving buffer. Specifically, Wills teaches a receiving buffer (fig. 1 box 22: 2 k cells) sending a backpressure signal to a transmitting buffer (fig. 1 box 21 7 k cells) informing the transmitting buffer to stop transmitting and thus prevent overflow in the receiving buffer (col. 2 lines 51-57).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination of Gamble and AAPA by making the synchronous buffer larger than the asynchronous buffer. Having the asynchronous buffer send backpressure signals to the synchronous buffer to prevent overflow of the asynchronous buffer can perform this modification. As previously stated one suggestion for the modification is having a small asynchronous buffer would not require a large amount of time to implement since a large asynchronous FIFO requires large double-sync logic and gray code tables (AAPA: [0003]).

Regarding claims 2, 13, 29, 35, the synchronous storage device is a synchronous FIFO (AAPA: synchronous FIFO, [0002]).

Regarding claims 3, 14, 30, 36, the asynchronous storage device is an asynchronous FIFO (AAPA: asynchronous FIFO, [0002]).

3. Claims 4, 11, 12, 15, 31, 33, 34, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Gamble, AAPA, and Wills as applied to claims 1, 10, 10, 10, 28, 32, 32, and 32 respectively above, and further in view of Subrahmanyan (US 2002/0186719).

Regarding claims 4, 15, 31, and 37, the combination is silent on the first data transfer rate / Sonet is greater than the second data transfer rate / DS-3.

Subrahmanyan teaches a system wherein the first data transfer rate is greater than the second data transfer rate (DS-3 data must be converted from the Sonet clock signal to the lower frequency DS-3 clock signal, [0009]).

Regarding claims 11 and 33, the combination is silent on the data of first transfer rate is included in a signal using the Sonet standard.

Subrahmanyan teaches the data of first transfer rate is included in a signal using the Sonet standard (Sonet, [0009])

Regarding claims 12 and 34, the combination is silent on the data of second transfer rate is included in a signal using the DS-3 standard.

Subrahmanyan teaches the data of second transfer rate is included in a signal using the DS-3 standard (DS-3, [0009])

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination of Gamble, AAPA, and Wills by replacing the DMA interface (Gamble: fig. 4 box 111) with a Sonet interface that transmits embedded DS-3 data and replacing the SCSI controller (Gamble: fig. 4 box 103) with a DS-3 interface. This modification can be performed by modifying the control circuit of Gamble (fig. 4 box 102B, circuit for matching data rates between two devices that are asynchronous, col. 2 lines 29-32) so that the Asynchronous FIFO will receive data from the Synchronous FIFO at the Sonet rate and the data received from the Synchronous FIFO will be transmitted at the DS-3 rate. This modification will benefit the system by enabling it to work in a Sonet/DS-3 environment.

Response to Arguments

4. Applicant's arguments filed 2/2/2006 have been fully considered but they are not persuasive.

Applicant argues that the references fail to suggest or to motivate one skilled in the art to store data defined by a first transmission standard in a network element and outputting the data at a second data transfer defined by a second standard (applicant: pg. 13 last paragraph). However, Gamble alone teaches this limitation.

Regarding the applicant's contention that no motivation exists to combine the combination of Gamble and AAPA with Wills (applicant: pg. 14 lines 11-14), Wills teaches it is well known in the art to transmit data from a first larger buffer to a second smaller buffer and this can be implemented using backpressure. The applicant repeats his contention that there is no motivation to combine the references (applicant: pg. 14 last paragraph, pg. 17 1st paragraph).

Regarding applicant's contention that the combination of Gamble, AAPA, and Wills does not teach a first storage area of a synchronous storage device larger than a second storage area of an asynchronous device (applicant: pg. 17 last paragraph). The examiner disagrees. As shown in the office action, Gamble

teaches a first storage area of a synchronous device and a second storage area of an asynchronous device. Wills teaches it is well known in the art to have a first larger storage device transmitting data to a second smaller storage device.

Regarding claims 10 and 32, the applicant reiterates his argument on why the combination does not make the claim obvious (applicant: pg. 19 2nd to last paragraph). The examiner disagrees for the reasons previously stated.

Applicant's arguments, see pg. 20-22, filed 2/2/2006, with respect to amended claims 16-21 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

Applicant's arguments, see pg. 24-27, filed 2/2/2006, with respect to claims 25-27 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

Applicant's arguments, see pg. 27-29, filed 2/2/2006, with respect to claims 22-24 and 38-40 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

Applicant's arguments, see pg. 29-30, filed 2/2/2006, with respect to amended claims 5-9 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson's whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seem Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald Abelson
Examiner
Art Unit 2666

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3/3/06